

REMARKS/ARGUMENTS

Claims 1-16 and 18-21 stand rejected in the outstanding Official Action. Claims 6 and 10 have been amended and therefore claims 1-16 and 18-21 remain in the application.

The issuance of a 3rd and non-final Official Action by the Examiner is believed an admission that the arguments set out in the Appeal Brief filed November 26, 2007 clearly distinguished over the cited prior art. While the Examiner cites new references, the teachings contained in those references are no more pertinent to the claimed invention than the previously cited prior art of Ehbets and Zincone.

Claims 6-11 stand rejected under 35 USC §112 (second paragraph) as being indefinite. This objection is respectfully traversed, as claim 1 clearly recites a transmit channel which forms a “variable focus transmit beam.” By definition, a transmit channel forming a transmit beam is a “first optical arrangement” whether or not it is identified as such. Thus, the recitation of the “transmit channel” in claim 1 clearly specifies a “first optical arrangement” and there is nothing indefinite about claim 6 dependent formerly dependent directly on claim 1 from reciting a second optical arrangement.

There is no requirement of *in haec verba* recitation of a first optical arrangement where the arrangement is clearly defined as inherent in the structure recited. Those of ordinary skill in the art will clearly have no difficulty understanding what is claimed and Applicants are uncertain as to how or why the Examiner believes there to be any indefiniteness. As the Manual of Patent Examining Procedure has held, claim 6 specifies a “second optical arrangement” and claim 1 clearly teaches a first optical arrangement in the transmit channel and therefore both claims are clearly definite.

However, Applicants have changed the dependency of claim 6 to depend from claim 2 which provides *in haec verba* support for the claim 6 reference to a second optical arrangement by reciting a “first optical arrangement.” The limitation added by claim 2 is that the transmit channel has at least one lens. This amendment to claim 6 will clearly obviate any further objection the Examiner has under 35 USC §112. Applicants have made a minor correction in claim 10 to delete a semicolon in line 1 which could prove confusing to the reader.

In view of the above and the amendment to claim 6, there is clearly no further basis for rejection of claims in this application under 35 USC §112 and any further rejection thereunder is respectfully traversed.

In section 4 of the outstanding Official Action, the Examiner contends that claims 1, 6, 18 and 19 are anticipated by Schneiter (U.S. Patent 4,963,017).

The Court of Appeals for the Federal Circuit has noted in the case of *Lindemann Maschinenfabrik GMBH v. American Hoist & Derrick*, 221 USPQ 481, 485 (Fed. Cir. 1984) that “[a]nticipation requires the presence in a single prior art reference disclosure of each and every element of the claimed invention, arranged as in the claim.”

It is apparently from reviewing the Official Action and the newly cited Schneiter references that the Examiner still, after reviewing the Appeal Brief and the previously cited prior art, does not understand the difference between a triangulation ranging device and a laser radar device. The Examiner’s attention is again directed to the Background of the Invention portion of Applicants’ specification, particularly page 1, line 1 through page 2, line 24.

Applicants’ claimed invention is a “bistatic laser radar device.” On page 1, line 3 of the present specification, the Examiner is taught that a “laser radar” is also known as a LIDAR. On

page 2, the difference between monostatic lidar systems and bistatic lidar systems is discussed. On page 2, lines 18-24, bistatic lidar systems are discussed as having “non-parallel transmit and receive beams [that] can be arranged to intersect at a certain point thereby accurately defining a probe volume.” Therefore, a bistatic laser radar (LIDAR) device is a well-known class of devices to which Applicants’ improvements relate.

Like the previously cited prior art, neither of the Schneider references (U.S. Patent 4,963,017 or U.S. Patent 5,082,362) contain any disclosure of a laser radar or LIDAR device. In fact, both references clearly distinguish their optical triangulation ranging system from RADAR, SONAR and LIDAR devices (Schneider ‘017 at column 1, lines 14-20 and Schneider ‘362 at column 1, lines 28-34). Accordingly, neither Schneider reference contains any teaching as to a laser radar or LIDAR device as required by Applicants’ claims, let alone a “bistatic laser radar device” as is required in the preamble to both independent claims 1 and 18.

While the Examiner has not provided any argument or support for ignoring the language of the preamble in the present application, he has apparently done just that. The Examiner is reminded that the Manual of Patent Examining Procedure (MPEP) at Section 2111.02 states that “any terminology in the preamble that limits the structure of the claimed invention must be treated as a claim limitation.”

Clearly the statement “bistatic laser radar device” in the preamble of independent claims 1 and 18 limits the claimed invention by requiring that the subsequently recited elements, i.e., the transmit channel and the receive channel, must be combined so as to form a bistatic laser radar device. Because the preamble is necessary to give “life, meaning, and vitality” to the claim, then the claim preamble should be construed as if in the balance of the claim. The Examiner has

committed reversible error by apparently ignoring the language of Applicants' independent claims.

Accordingly, and in view of the above, the first claim limitation missing from all prior art references is the fact that the claimed invention is a bistatic laser radar device and that the two Schneider references not only contain no disclosure of a bistatic laser radar device, they teach optical triangulation ranging systems which specifically distinguishes itself from LIDAR devices. Therefore, based upon the first line of independent claims 1 and 18, neither Schneider patent can anticipate the subject matter of independent claims 1 and 18 or claims dependent thereon and therefore any further rejection of claims 1, 6, 18 and 19 is respectfully traversed.

Additionally, each of claims 1 and 18 recites "a transmit channel for forming a variable focus transmit beam." The Examiner alleges in the outstanding Official Action that Schneider '017 teaches the claimed "transmit channel for forming a variable focus beam" and references "fig 6a, item 29." The Examiner has apparently failed to look at Figure 6a or read the definition of item 29. By looking at Figure 6a, item 29 is shown to be a mirror and as discussed in column 5, line 5 of Schneider '017, it is indeed "mirror 29." A review of the related portion of the Schneider reference will indicate that mirror 29 can be moved so as to change the direction of laser beam 30. However, nowhere in either Schneider reference is there any indication that mirror 29 changes or affects the focus of the laser beam in any fashion.

The Examiner is specifically requested to identify where or how he believes any of the cited prior art references disclose a "variable focus transmit beam." The Examiner will be unable to meet this challenge as there is no disclosure in the Schneider references of any such variable focus transmit beam.

Schneiter does teach a variable focus receive beam on the receive channel (detector 35 is mounted on a linear translation stage 38 and 39 for movement relative to fixed lens 27 and therefore movement of the detector with respect to the lens will alter the point of focus). However, there is no disclosure of Applicants' claimed "transmit channel" and therefore this claimed element is also not included in the Schneiter reference. Accordingly, any further rejection of independent claims 1 and 18 and claims dependent thereon is respectfully traversed.

Applicants' independent claims 1 and 18 also require that the recited elements are "arranged such that all points of focus of the transmit beam and all points of focus of the receive beam fall on a common axis within the operable distance range of the device." While the Examiner alleges that this is achieved in Schneiter '017 as shown in Figures 6a and 6b and discussed between column 4, line 67 and column 5, line 21, the Examiner is simply incorrect. A simple review of Schneiter '017's Figure 6b cited by the Examiner will demonstrate the error of the Examiner's contention.

Assuming for the purpose of argument that the focal point of the receive beam has been adjusted to be located on the surface of the "near object," the transmit beam, while intersecting the receive beam at the surface of the object, is not necessarily focused on that point (as noted above, neither Schneiter reference teaches a "variable focus transmit beam" although it does teach a variable focus receive beam).

The Examiner need only consider what would happen if Schneiter's motorized linear slides 34 and 39 were moved to the positions shown in Figure 6a without rotating the mirror 29 (note there is absolutely no teaching in the document to say that such operation is prevented). Assuming for the purpose of discussion that the transmit beam is focused, the point of the focus

would move laterally or in a direction perpendicular to the optical axis of the detector. There is no structure shown which will vary the focus of the transmit beam 30, whether illuminating a near object or a far object. The movement of the beam perpendicular to the optical axis of the detector is accomplished by rotating mirror 29. Because of the different distances from the device to the “near object” in Figure 6b and from the device to the “far object” in Figure 6a and the fact that there is no lens system for focusing the laser beam, “all points of focus of the transmit beam” cannot possibly be on a common axis with “all points of focus of the receive beam.”

In view of the above, it will become abundantly clear to the Examiner that either the transmit beam does not have a point of focus and therefore referring to a point of focus is meaningless, or accepting that the focus of the transmit beam is not constrained to lie on the axis of possible points of focus of the receive beam. In either instance, the Examiner’s assertion that the claimed interrelationship (“wherein the device is arranged such that . . .”) is simply not met by either of the Schneiter references.

As a result of the above, Schneiter ‘017, because it does not disclose “each and every claimed element, arranged as in the claim,” it cannot anticipate the subject matter of independent claims 1 and 18 or claims dependent thereon and any further rejection thereunder is respectfully traversed.

Claims 2-5, 7-16, 20 and 21 stand rejected as being unpatentable over Schneiter ‘017 as applied in independent claims 1 or 18 in view of one or more of Schneiter ‘362, Bowers (U.S. Publication 2003/0184729), Carlson (U.S. Patent 3,554,646), Tocher (U.S. Patent 5,280,332), Holton (U.S. Publication 2002/0075472) and Evans (U.S. Patent 6,323,941). The Examiner’s

obviousness rejections in sections 6-9 on pages 3-7 of the Official Action are traversed as being clearly indefinite. The Examiner has numerous references to “Schneiter” without any indication as to which of the two previously cited Schneiter references the Examiner is referring to, e.g., in section 6, lines 3 and 5, there are references “Schneiter” but no indication as to whether it is Schneiter ‘017 or Schneiter 362. The Examiner is respectfully requested to identify which Schneiter reference is being referred to in each reference in any future rejection.

Although it is not specified in the Official Action, Applicants will assume that the first named Schneiter in each one of the obviousness rejections is a reference to Schneiter ‘017 previously discussed above. Upon this assumption, Applicants incorporate by reference the above discussion pointing out that Schneiter ‘017 clearly fails to disclose a “bistatic laser radar device,” a transmit channel for forming “a variable focus transmit beam” and the specified arrangement with “all points of focus of the transmit beam and all points of focus of the receive beam fall on a common axis.” Because none of these three structures are disclosed in Schneiter ‘017, they must be disclosed in at least one of the cited secondary references.

However, the Examiner includes no allegation that any of the secondary references teach the elements or interrelationships noted above to be missing from Schneiter ‘017. Accordingly, even if Schneiter ‘017 were combined with the noted secondary references, the subject matter of independent claims 1 and 18 cannot possibly be obvious, let alone the more detailed subject matter of the rejected dependent claims.

Because the Examiner has failed to establish a *prima facie* case of obviousness, i.e., no disclosure of claimed structure and structural interrelationships in the plurality of cited references, each of the rejections under 35 USC §103 of the dependent claims is respectfully

traversed. Moreover, even if the secondary references bore some disclosure or relationship to a bistatic laser radar device, one of ordinary skill in the art would not combine the Schneider '017 triangulation radar laser system with disclosures of LIDAR systems because, as noted above, Schneider '017 clearly teaches away from having anything to do with LIDAR systems at column 1, lines 14-20.

Thus, not only is there no suggestion for combining references, in fact, the primary reference teaches away from any combination with a LIDAR system and instead suggests using a triangulation range detecting system.

Thus, while it is impossible to understand the Examiner's rejections under §103 as stated, to the extent they are understood, they are clearly unsupported by the references cited and any further rejection of any claims dependent upon independent claims 1 or 18 over Schneider '017 in view of the secondary references under 35 USC §103 is respectfully traversed.

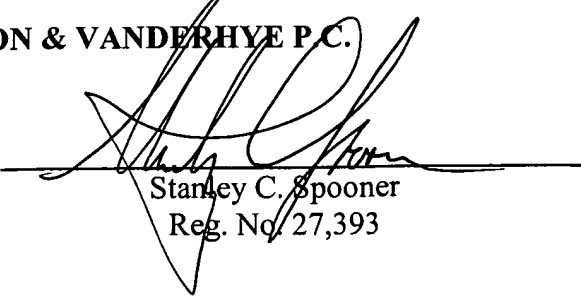
Having responded to all objections and rejections set forth in the outstanding Official Action, it is submitted that claims 1-16 and 18-21 are in condition for allowance and notice to that effect is respectfully solicited. In the event the Examiner is of the opinion that a brief telephone or personal interview will facilitate allowance of one or more of the above claims, he is respectfully requested to contact Applicants' undersigned representative.

HARRIS et al.
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Respectfully submitted,

NIXON & VANDERHYTE P.C.

By: _____


Stanley C. Spooner
Reg. No. 27,393

SCS:kmm
901 North Glebe Road, 11th Floor
Arlington, VA 22203-1808
Telephone: (703) 816-4000
Facsimile: (703) 816-4100